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Safe and convenient intrathoracic anastomosis in minimally invasive Ivor Lewis esophagectomy

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To minimize cervical anastomosis complications, minimally invasive Ivor Lewis esophagectomy (MIILE) was introduced and it has lowered morbidity and mortality [1]. Owing to its safety and convenience, anastomosis technique using circular stapler is widely used for intrathoracic esophagogastric anastomosis in open esophagectomy [2]. The procedure involves the following steps: purse-string suturing of the esophagus, anvil placement in the proximal esophagus, and docking the anvil with the spike of stapler shaft. In particular, purse-string suturing and anvil insertion are very difficult under thoracoscopy. For this reason, some surgeons have modified the method to complete the procedure, however, they are technically demanding [3,4].

In the current study [5], the authors incorporated the double ligation method, which is successfully performed on esophagojejunostomy in gastric cancer surgery, into the esophagogastrostomy in MIILE. Relatively short purse-string suture time was required and a low anastomosis leakage rate was observed, and it is expected that the double ligation method provides a good approach to safely perform intrathoracic anastomosis using a circular stapler.

However, as the authors mentioned, a relatively high anastomotic stricture rate was observed. A study describing intrathoracic anastomoses using circular staplers showed similar stricture rates [3], whereas other studies showed relatively low anastomotic stricture rates [4,6]. Therefore, it may be necessary to consider other factors that may affect stricture rates, in addition to the fact that pulling the gastric tube may lead to stenosis.

Some anastomosis techniques that would be a better option during MIILE have been recently reported. One issue is a comparison between circular stapled anastomosis using a transorally inserted anvil (Orvil™, Medtronic) and circular stapled anastomosis using a transthoracically placed anvil (non-Orvil™). Another is a comparison between a linear stapled and a circular stapled anastomosis. Lin et al. [7] reported that the Orvil™ technique had a lower postoperative anastomotic leakage rate than the non-Orvil™ technique after propensity score-matched analysis. Regarding the stapler type, an open approach showed less anastomotic stricture after anastomosis using a linear stapler than using a circular stapler [8]. However, a recent comparative study in MIILE concluded that both techniques, linear and circular stapling, are safe and effective, producing comparably good clinical results [9]. In any case, the anastomosis technique using a linear stapler is gradually becoming the preferred choice during intraabdominal surgery, especially in gastric cancer surgery, and a recent long-term follow-up study

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has revealed the safety and effectiveness of esophagectomy using a linear stapler; attention is therefore needed [10].

NOTES

Conflict of interest

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